ABSTRACT OF THE DISCLOSURE

[61]   The present invention provides a method and apparatus for finding the next free bit in a register, starting from a known pointer. The present invention breaks the N bits of a vector in a register into M parts, performs an AND operation to all bits of each part respectively, and uses the operation result for each part as a bit to generate a check sector. It is then decided whether the register has a free bit by performing an AND operation to all bits of the check sector. If the result is 1, the register is full. Otherwise, the next free bit is found by looking for a forward free bit from the pointed-to bit until the end of the pointed-to part; a forward available part, having a free bit, from the pointed-to part until the end of the register; and an available part, having a free bit, from the beginning of the register. The present invention also searches the parts to locate the free bit therein.